

2009 Potato Variety Trials Winter Storage Results

Rob Wilson, Center Director/Farm Advisor; Don Kirby, Superintendent of Agriculture; Brooke Kliewer & Kevin Nicholson, Staff Research Associates. University of California Intermountain Research & Extension Center, 2816 Havlina Rd. Tulelake, CA. 96134 Phone: 530/667-2719 Fax: 530/667-5265 Email: rgwilson@ucdavis.edu

This report is an addendum to the 2009 Potato Variety Trial Report (IREC Research Progress Report #126) to present the winter storage results for each variety.

U.S. No. 1 sacks for each variety were stored and then evaluated for shatter bruise, percent of cumulative shrink, percent of cumulative rot, turgor, and sprouting. The Russet and Specialty varieties were placed into storage at 40^oF for 180 days with evaluations at approximately 60, 120, and 180 days. The Chipper varieties were placed into a separate storage bin at 50^oF for 90 days and were evaluated at 60 and 90 days. Sprout inhibitor was not applied at any time during the storage duration. The relative humidity was set at 100%.

Results

See Table 1 for storage evaluation results of experimental and standard russet skinned entries. A97066-42LB had the highest amount of shrink and rot at the end of the storage evaluation at 11.14% and 8% respectively.

See Table 2 for the storage evaluation results of experimental and standard specialty entries. ATX9132-2Y had a high amount of shrink, low turgor rating, and early sprouting at 122 and 183 days after harvest.

See Table 3 for the storage evaluation results of experimental and standard chipper entries.

Table 1. Storage Evaluation of Experimental & Standard Russet Skinned Potato Entries. Tulelake 2009.

Entry	Shatter Bruise Rating ¹	Cumulative Shrink (%) ²			Cumulative Rot (%) ³			Turgor Rating ⁴ (1-5, 5=Best)			Sprout Rating ⁵ (1-5, 5=None)		
	Date	12/15/09	2/11/10	4/13/10	12/15/09	2/11/10	4/13/10	12/15/09	2/11/10	4/13/10	12/15/09	2/11/10	4/13/10
	62 DAH	62 DAH	120 DAH	181 DAH	62 DAH	120 DAH	181 DAH	62 DAH	120 DAH	181 DAH	62 DAH	120 DAH	181 DAH
Ranger Russet	5.00	1.51	4.08	6.09	0.00	0.00	0.00	5.00	4.50	4.00	4.50	4.00	3.00
Russet Burbank	4.50	2.30	5.51	7.61	0.00	0.00	0.75	5.00	5.00	4.00	5.00	5.00	4.00
Russet Norkotah	5.00	1.55	4.87	6.96	0.00	0.00	0.00	5.00	4.50	4.00	5.00	4.00	3.50
A96814-65LB	5.00	1.55	4.17	6.63	0.00	0.46	0.83	5.00	4.00	4.00	4.50	4.00	3.00
A97066-42LB	4.00	2.45	5.20	11.14	0.07	4.25	8.00	5.00	4.50	4.00	5.00	4.50	3.50
A98345-1	4.00	2.66	5.47	7.47	0.36	0.36	0.66	5.00	3.75	3.50	4.00	3.50	3.00
A0008-1TE	4.50	0.99	3.40	5.68	0.00	0.00	0.00	5.00	4.50	3.00	5.00	4.00	3.00
AC99375-1RU	5.00	1.30	4.41	8.52	0.46	2.49	2.49	5.00	4.00	2.75	5.00	4.00	3.50
AO96305-3	5.00	1.24	3.10	4.69	0.00	0.00	0.00	5.00	5.00	4.50	5.00	4.00	4.00
AO96365-2	5.00	1.26	3.15	4.77	0.00	0.00	0.00	5.00	4.50	4.00	4.50	4.00	3.00
CO97087-2RU	5.00	1.55	4.47	6.58	0.00	0.00	0.00	5.00	3.75	3.00	5.00	4.00	4.00
CO98067-7RU	5.00	1.74	4.87	6.96	0.00	0.25	0.25	5.00	4.50	3.00	5.00	4.00	3.50
CO98368-2RU	4.50	1.93	4.84	6.98	0.08	0.29	0.29	5.00	4.00	3.50	5.00	4.50	4.00
CO99053-3RU	4.50	1.20	3.18	5.28	0.00	0.48	0.48	5.00	4.50	3.50	5.00	4.00	3.50
CO99053-4RU	5.00	1.94	5.88	8.64	0.00	0.06	0.06	5.00	4.00	3.50	5.00	4.00	3.00
CO99100-1RU	4.50	1.55	4.44	7.13	0.05	0.05	0.05	5.00	4.00	4.00	5.00	4.00	3.50
PA00N14-2	5.00	1.66	3.30	5.41	0.00	0.00	0.00	5.00	4.50	3.50	5.00	5.00	4.00
PA99N2-1	3.50	0.99	3.37	5.22	0.00	0.00	0.00	5.00	4.50	4.50	5.00	4.00	2.50
PA99N82-4	4.50	1.26	3.66	6.08	0.00	0.00	0.24	5.00	4.00	3.00	5.00	4.00	3.00
Russet Norkotah	5.00	1.75	5.70	8.15	0.00	0.00	0.00	5.00	5.00	4.00	5.00	4.00	3.50
AOTX95265-1RU	5.00	1.59	4.29	6.11	0.00	0.00	0.17	5.00	4.50	3.50	5.00	4.00	3.50
AOTX96265-2RU	4.00	1.41	3.14	4.98	0.00	0.00	0.37	5.00	4.50	3.00	5.00	4.00	2.75
ATX9332-12RU	4.00	1.45	3.68	5.33	0.00	0.00	0.00	5.00	4.50	4.00	5.00	4.00	4.00
ATX97232-1RU	4.50	0.98	3.07	4.82	0.00	0.00	0.00	5.00	4.00	4.00	5.00	4.00	4.00
A9305-10	4.00	1.23	3.61	5.61	0.00	0.00	0.00	5.00	4.00	3.50	5.00	5.00	4.00
A95109-1	3.50	1.52	4.01	6.24	0.00	0.00	0.12	5.00	4.00	3.50	5.00	4.00	4.00
AOA95154-1	4.50	1.21	4.08	6.02	0.00	0.00	0.00	5.00	4.00	3.50	4.00	4.00	3.50
¹ 1-5, 5=None													
² Percent of weight lost over time from initial weight													
³ Percent of weight from tubers with rot													
⁴ 1-5, 5=best or very firm													
⁵ 1-5, 5=none, 4=peeping, 3=>peeping-1 inch, 2= 1 inch-2inches, 1=>2 inches													

Table 2. Storage Evaluation of Experimental & Standard Specialty Entries. Tulelake 2009.

	Shatter Bruise Rating ¹	Cumulative Shrink (%) ²			Cumulative Rot (%) ³			Turgor Rating ⁴ (1-5, 5=Best)			Sprout Rating ⁵ (1-5, 5=None)		
Date	12/15/09	12/15/09	2/11/10	4/13/10	12/15/09	2/11/10	4/13/10	12/15/09	2/11/10	4/13/10	12/15/09	2/11/10	4/13/10
Entry	64 DAH	64 DAH	122 DAH	183 DAH	64 DAH	122 DAH	183 DAH	64 DAH	122 DAH	183 DAH	64 DAH	122 DAH	183 DAH
Dk Red Norland	4.00	3.45	5.77	8.66	0.00	0.86	0.86	5.00	4.00	3.00	5.00	4.00	2.00
Red LaSoda	4.00	3.62	6.09	7.68	0.60	0.60	0.60	5.00	4.00	4.00	5.00	4.00	3.00
ATTX98453-6R	3.00	4.41	6.66	9.24	0.49	1.43	1.43	5.00	4.00	3.00	5.00	4.50	4.00
BTX2332-1R	3.00	3.80	5.97	10.47	0.00	2.48	3.61	4.50	3.50	3.00	5.00	4.00	3.00
COTX94216-1R	3.50	3.72	5.77	7.57	0.00	0.00	0.00	5.00	4.00	4.00	5.00	4.00	3.50
COTX94218-1R	3.00	4.26	7.19	11.11	0.95	3.38	3.88	4.50	3.50	3.50	5.00	5.00	4.00
NDTX4784-7R	4.00	3.31	5.46	8.09	0.58	1.50	2.17	5.00	4.00	3.50	5.00	4.00	3.00
A99326-1PY	3.00	3.29	4.90	6.32	0.00	0.00	0.00	4.50	4.50	3.50	5.00	4.00	4.00
AC99329-7PW/Y	5.00	3.00	5.16	7.63	0.00	0.00	0.00	5.00	4.00	4.00	3.00	3.00	2.00
AC99330-1P/Y	4.50	3.15	5.45	7.48	0.18	0.18	0.18	5.00	4.50	4.00	5.00	4.00	3.50
POR01PG45-5	4.00	3.60	5.57	7.14	0.00	0.00	0.40	5.00	4.00	3.50	5.00	4.00	3.00
POR03PG80-2	3.50	3.67	6.56	8.73	0.00	0.00	0.00	5.00	4.00	3.50	5.00	4.00	4.00
PA96RR1-193	4.50	4.71	8.39	11.15	0.23	0.23	0.27	5.00	4.00	3.00	5.00	4.00	2.50
POR03PG23-1	4.00	4.13	6.97	10.07	0.00	0.00	0.00	4.00	3.50	4.00	4.00	3.00	3.00
Purple Majesty	5.00	2.65	5.40	8.03	0.00	0.00	0.00	5.00	4.00	4.00	4.00	3.00	3.00
OR00068-11	3.50	4.25	6.56	9.09	0.00	0.48	1.00	5.00	4.50	4.00	5.00	4.00	3.00
Yukon Gold	4.50	1.97	3.62	4.80	0.00	0.00	0.00	5.00	5.00	5.00	5.00	4.00	3.50
A00286-3Y	4.50	2.58	4.26	6.22	0.00	0.69	0.69	5.00	4.00	4.00	3.00	3.00	3.00
A00293-2Y	3.50	3.19	5.54	7.08	0.31	0.31	0.60	5.00	4.00	4.00	5.00	5.00	4.00
CO00412-5W/Y	3.50	3.41	5.30	7.65	0.00	0.73	1.30	5.00	5.00	4.50	5.00	4.00	4.00
CO99045-1W/Y	3.50	2.98	4.85	6.53	0.00	0.00	0.00	4.50	4.00	4.00	5.00	4.00	3.50
POR02PG37-2	4.00	3.67	6.51	10.04	0.00	0.00	0.00	4.50	3.00	2.50	3.50	2.00	1.00
Sierra Gold	4.00	3.02	5.25	6.89	0.00	0.00	0.00	5.00	4.00	3.50	5.00	4.00	3.00
ATTX98493-1R/Y	4.50	4.25	7.14	9.47	0.31	0.50	0.50	4.50	3.00	3.00	5.00	4.00	3.00
ATTX98518-5PU/Y	4.50	4.00	6.73	9.08	0.32	0.32	0.32	4.50	3.50	2.50	5.00	4.00	3.50
ATX9132-2Y	4.50	5.62	10.08	15.67	0.91	1.48	2.52	4.00	3.00	2.50	3.00	2.50	2.00
BTX2103-1R/Y	3.50	3.78	5.46	7.62	0.00	0.00	0.00	5.00	4.50	4.00	5.00	4.00	3.00
CO01399-10P/Y	5.00	3.19	4.68	7.06	0.00	0.91	1.45	5.00	4.50	4.00	5.00	4.00	3.00
PORTX03PG25-2R/R	4.00	4.15	7.06	12.38	0.36	3.44	4.51	5.00	4.00	4.00	4.50	4.00	4.00
Sierra Gold-2	4.00	3.50	6.23	8.45	0.38	0.38	0.38	4.50	4.00	3.50	5.00	4.00	3.00
Sierra Gold-3	4.00	2.88	5.23	6.90	0.19	0.19	0.19	4.50	4.00	3.50	5.00	4.00	3.00
TXYG055	3.50	1.95	3.52	4.69	0.00	0.00	0.00	5.00	5.00	5.00	5.00	4.00	3.00
TXYG057	4.00	1.95	3.68	5.10	0.00	0.00	0.00	5.00	4.50	5.00	5.00	4.00	3.50
TXYG079	4.00	1.97	3.93	5.38	0.00	0.00	0.00	5.00	5.00	4.00	5.00	5.00	4.00
TXYG098	4.00	2.46	4.24	5.88	0.00	0.00	0.00	5.00	4.50	5.00	5.00	4.00	3.00
TXYG105	3.50	2.20	3.89	5.12	0.00	0.00	0.00	5.00	5.00	5.00	5.00	4.50	3.50
TXYG107	4.00	1.96	3.65	5.40	0.00	0.00	0.00	5.00	5.00	5.00	5.00	4.00	3.00
ATTX98453-11BR	3.00	4.78	6.69	8.62	0.00	0.00	0.00	4.50	3.50	3.00	5.00	5.00	4.00
ATTX01178-1R	3.00	4.72	7.72	10.15	0.89	1.80	2.33	4.00	3.00	3.50	5.00	4.00	3.00
COTX00104-7R	4.00	2.88	5.27	7.60	0.56	1.30	2.36	5.00	4.00	4.00	5.00	4.00	2.50
NDTX5003-2R	3.50	4.83	8.06	11.18	0.00	0.49	1.32	4.00	3.00	3.50	5.00	3.50	3.00

¹ 1-5, 5=None

² Percent of weight lost over time from initial weight

³ Percent of weight from tubers with rot

⁴ 1-5, 5=best or very firm

⁵ 1-5, 5=none, 4=peeping, 3=>peeping-1 inch, 2= 1 inch-2inches, 1=>2 inches

Table 3. Storage Evaluation of Experimental & Standard Chipper Entries. Tulalake 2009.

	Shatter Bruise Rating ¹	Cumulative Shrink (%) ²		Cumulative Rot (%) ³		Turgor Rating ⁴ (1-5, 5=Best)		Sprout Rating ⁵ (1-5, 5=None)	
		Date	12/15/09	1/27/10	12/15/09	1/27/10	12/15/09	1/27/10	12/15/09
Entry	62 DAH	62 DAH	105 DAH	62 DAH	105 DAH	62 DAH	105 DAH	62 DAH	105 DAH
Atlantic	4.00	4.10	7.67	0.00	0.00	5.00	3.00	4.00	1.00
Chipeta	4.50	3.59	5.36	0.00	0.00	5.00	3.75	4.50	3.00
CO00188-4W	4.50	2.86	5.40	0.00	0.00	5.00	3.50	4.50	3.00
CO00197-3W	5.00	2.68	5.84	0.20	0.20	5.00	3.50	4.00	1.50
CO00270-7W	4.00	3.38	7.08	0.12	0.12	5.00	3.00	3.00	1.00
9781	4.00	3.08	5.46	0.20	0.20	5.00	4.00	4.50	3.00
Dakotah Pearl	4.50	3.03	5.82	0.00	0.00	5.00	3.50	4.00	2.00
8402	4.00	3.09	5.20	0.00	0.00	5.00	4.00	5.00	3.00
7681	4.50	5.53	9.23	0.00	1.11	5.00	3.00	4.50	2.00
3502	5.00	3.41	6.41	0.00	0.00	5.00	3.50	4.00	1.00
Pike	4.50	3.40	6.00	0.00	0.00	5.00	4.00	4.50	3.00
Dakotah Diamond	4.50	3.14	4.96	0.00	0.00	5.00	4.00	4.50	3.00
¹ 1-5, 5=None									
² Percent of weight lost over time from initial weight									
³ Percent of weight from tubers with rot									
⁴ 1-5, 5=best or very firm									
⁵ 1-5, 5=none, 4=peeping, 3= >peeping-1 inch, 2= 1 inch-2inches, 1= >2 inches									

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